

Colonial Pipeline Company



Foaming Plan

INCIDENT: CR 251

LOCATION: Pelham, AL

DATE & TIME PREPARED: November 1, 2016 18:20

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FOSC:	<i>Jason Burt</i> Sign	JASON BURT Print	11/1/16 Date
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**LOSC:** *Danny C. Ray* 11/2/16  
 \*Please note: All approved plans must be filed with the appropriate Documentation Unit Leader (DOCL) to upload into WebIAP as well as disseminated to proper ICS Staff and/or included in the Situation Display.



**CR 251 Event  
Foaming Plan  
DTN 59317**

**1. Plan Description**

Once the fire has gone out at the leak site there is a possibility that additional product or vapors may come out of the pipeline. The following plan outlines the actions that may be taken to suppress vapors after the fire has gone out.

**2. Plan**

- A. Continuous air monitoring shall continue once the fire has gone out
- B. If the LEL exceeds 50%, (or at the discretion of the fire department) foaming agents will be applied at the leak site within a 20' radius of the impacted zone per fire department procedures. One of the following agents will be applied:
  - F500 (**preferred**)
    - Pros: Breaks down hydro carbons and is less intrusive
  - Thunderstorm AFFF
    - Pros: Aqueous vapor barrier
    - Cons: Reapplication is typically required every 30 minutes
- C. All Personnel shall wear the correct PPE while working near the leak site
- D. No work will be conducted in the impacted zone unless the LEL is below 10%

**3. Post Foaming Procedures**

- 1. All impacted soil will be removed and stockpiled on plastic per Environmental/Planning. Sampling of the soil will be ongoing to ensure removal of the foaming agent(s).





# MATERIAL SAFETY DATA SHEET

## F-500 MULTI-PURPOSE ENCAPSULATOR AGENT

Date Prepared: 21 April 2014

Issued by: Hazard Control Technologies, Inc.

Not Classified as Hazardous

### 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

**Chemical Product** Not Applicable - Blend  
**Company** Hazard Control Technologies, Inc.  
**Product Name** F-500 Encapsulator Agent  
**Company Name** Environmental Hazard Management Pty Ltd.  
**Address** 2349 Grenfell Road  
COWRA NSW 2794 Australia  
**Emergency Telephone #** + 61 438 886 359 / +61 412 904 097  
**Company Telephone #** +61 732 767 988  
**Email** gph@environhazman.com  
**Recommended Use** Firefighting agent; spill control encapsulator

### 2. HAZARDS IDENTIFICATION

**Hazard Classification** Not classified as hazardous  
**Safety Phrase(s)** R36/38 - Irritant. Avoid contact with skin and eyes

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

The composition of this mixture is proprietary information. In the event of a medical emergency, compositional information will be provided to a physician or nurse.

NAME	CAS	PROPORTION
Nitritotrisethanol aliphatic soap	Trade Secret	1-4.5%
Alkyl ether amine reaction with aliphatic acids	N/A Mixture/Preparation	25-55%
Linear aliphatic alcohols	N/A Mixture/Preparation	3-10%
Water	7732-18-5	35-55%

### 4. FIRST AID MEASURES

**Inhalation** Immediately remove the affected victim from exposure and administer fresh air. Apply artificial respiration if breathing has stopped. Keep at rest. Call for prompt medical attention.

**Ingestion** Do NOT induce vomiting. If individual is conscious, give plenty of water or milk to dilute stomach contents. Keep warm and quiet. Get prompt medical attention. Do NOT attempt to give anything by mouth to an unconscious person.

**Skin** Immediately flush with large amounts of water, use soap if available. Remove contaminated clothing, including shoes, after flushing has begun. If irritation persists, seek medical attention.

**Eye** Immediately flush eyes with large amounts of water for at least 15 minutes. Seek prompt medical attention if irritation persists.





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### First Aid Facilities

Eyewash and normal washroom facilities

### Advice to Doctor

Product has a neutral pH. Working solutions when heated above 75°C can cause respiratory irritation such as typical of mild acids and should be treated as such. Skin or eye contact with product should be flushed with water to reduce irritation.

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## 5. FIRE FIGHTING MEASURES

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### Suitable Extinguishing Media

Apply water to extinguish

### Hazards from Combustion Products

Product is non-combustible

### Precautions in Connection with Fire

Non-flammable liquid concentrate

**SPECIAL FIRE FIGHTING INSTRUCTIONS:** Product is a fire fighting extinguishing agent. Product is a non-flammable liquid; however, exposure to high heat for extended period of time could cause combustion. If combustion occurs, apply water to extinguish.

**NOTE:** No hazardous byproducts are known.

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## 6. ACCIDENTAL RELEASE MEASURES

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### Land Spill

Product is not a hazardous waste. Dispose of in accordance with government regulations.

When product is used to mitigate a hazardous material, the resultant material must be handled in the same fashion as the hazardous material. Contain liquid with sand or earth. Do not use combustible materials such as sawdust. Recover liquids by pumping (use an explosion proof or hand pump if recovering flammable liquids) or with a suitable absorbent. Consult an expert on disposal of recovered material.

### Water Spill

Dike or contain any spill. Avoid direct discharge into any body of water. Diluted product may be acceptable in municipal wastewater treatment plants.

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## 7. STORAGE AND HANDLING

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### Precautions for Safe Handling

Keep containers closed until ready for use. Handle any open containers with care. Empty product containers may contain product residue. Do NOT reuse empty containers without commercial cleaning or reconditioning.

### Conditions for Safe Storage

Store in cool, well ventilated area away from incompatible materials. Protect material from direct sunlight. This material is not a static accumulator, but use proper grounding procedures. Do NOT pressurize, cut, heat or weld containers.

**SHELF LIFE (unopened container):** 15 years unopened container.





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**STORAGE TEMPERATURE:** 1.5°C -54.5°C

**STORAGE/TRANSPORT PRESSURE:** Atmospheric

**LOADING/UNLOADING VISCOCITY:** 85 cP at 21°C

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### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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National Exposure Standards	Nil established
Biological Limit Values	Nil allocated
Engineering Controls	Provide sufficient ventilation with local exhaust ventilation system in an enclosed area.
Respiratory Protection	Typically respiratory protection is not required under normal conditions of use.
Eye Protection	Wear protective eyewear.
Hand Protection	Wear gloves.
Body Protection	Where contact is likely, wear long sleeves.

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### 9. PHYSICAL AND CHEMICAL PROPERTIES

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Appearance	Amber liquid
Odour	Mild
Melting Point	-3°C
Boiling Point	118°C
Solubility in Water	Complete at 20°C
Specific Gravity	0.990 g/cc
pH Value	6.9 - 7.1 pH
Vapour Pressure (Air=1)	2,666 Pa @ 25°C
Flash Point	N/A
Flammability	Non-flammable liquid
Auto-Ignition Temperature	N/A
Explosion Limits (lower/upper)	Non-explosive

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### 10. STABILITY AND REACTIVITY

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Chemical Stability	Stable
Conditions to Avoid	Avoid contact with strong oxidizing agents
Incompatible Materials	Strong oxidizing agents
Hazardous Decomposition Products	None identified
Hazardous Polymerization	Will not occur





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### 11. TOXICOLOGICAL INFORMATION

Toxicology Information	EC <sub>50</sub> (microbial toxicity) – <i>Activated Sludge Microorganisms</i> – 3,000.00mg/L LC <sub>50</sub> (aquatic toxicity) – <i>Pimephales promelas</i> – 1.20 mg/L LD <sub>50</sub> (acute oral toxicity) – Rat ( <i>Rattus norvegicus</i> ) -> 5.00 gr/kg Non-Mutagenic (OECD Guidelines Section 471)
Ingestion	May cause gastro-intestinal irritation if ingested.
Skin	Frequent or prolonged contact may cause minor irritation and/or drying. OECD 401-Non skin sensitizing.
Eye	Can cause local irritation.

### 12. ECOLOGICAL INFORMATION

Ecotoxicity	F-500 contains no reportable ingredients
Persistence/Degradability	100% Biodegradable
Mobility	High mobility
Bioaccumulative Potential	Nil
Environmental Protection	Prevent spilled material from entering sewers, waterways, or any body of water
Acute Toxicity – Other Organisms	Nil Known
Biological Oxygen Demand (BOD <sub>5</sub> ) (mg/L)	12,000 at 3% solution
Chemical Oxygen Demand (COD) (mg/L)	58,000 at 3% solution
Corrosivity	8 micrometers/year (same as fresh water)

### 13. DISPOSAL CONSIDERATIONS

Disposal Considerations	Handle open containers with care. Empty product containers may contain residue. Triple rinse empty containers and add rinse water to working solution. Empty container is recyclable.
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### 14. TRANSPORT INFORMATION

Transport Information	Transport under atmospheric pressure conditions and avoid freezing or high temperatures in excess of 55°C. Transportation class: Cleaning agents not otherwise specified.
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### 15. REGULATORY INFORMATION

Regulatory Information	Not classified as hazardous
Poisons Schedule	Not scheduled



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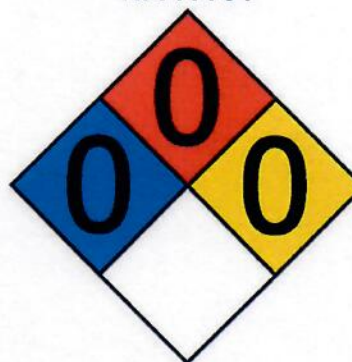
### 16. OTHER INFORMATION

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#### NPCA-HMIS

HEALTH	/	0
FLAMMABILITY		0
PHYSICAL HAZARD		0
PERSONAL PROTECTION	np	

#### NFPA 704



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*This information relates to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is to the best of our knowledge and belief, accurate and reliable as of the date compiled. However, no representation, warranty or guarantee is made as to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use. We do not accept liability for any loss or damage that may occur from the use of this information nor do we offer warranty against patent infringement.*





## ThunderStorm® ATC AR-AFFF 1% or 3% F-601B



### Technical Information

#### Description

ThunderStorm® F-601B 1% or 3% ATC AR-AFFF concentrate is formulated using a new and proprietary technology. The foam concentrate has a dramatically reduced viscosity as compared to other 1% or 3% listed polar solvent type AR-AFFF concentrates on the market. This reduced viscosity enhances performance in all types of foam proportioning equipment including in-line eductors, balanced pressure systems, and built-in systems aboard CFR vehicles.

Additionally, the fire fighting performance of ThunderStorm® F-601B is superior to other AR-AFFF foam concentrates. This includes the blended gasoline additive Methyl Tertiary Butyl Ether (MTBE) which is being used as an oxygenate to make gasoline cleaner burning. ThunderStorm® F-601B offers many distinct advantages for ease of use and represents a continued commitment to quality by improving the fire performance of this type of agent on gasoline products while still maintaining high performance levels on other hydrocarbons and polar fuels.

ThunderStorm® F-601B is formulated from special fluorochemical and hydrocarbon surfactants, high molecular weight polymers and solvents. It is transported and stored as a concentrate to provide ease of use and considerable savings in weight and volume. It contains no PFOS or PFOA. It is intended for use as a 1% proportioned solution on hydrocarbon fuels and as a 3% proportioned solution on polar fuels in fresh, salt or hard water. It may also be stored and used as a premixed solution in fresh potable water only. ThunderStorm® F-601B concentrate is biodegradable.

There are three fire extinguishing mechanisms in effect when using ThunderStorm® F-601B solution on either a conventional Class B hydrocarbon fuel such as gasoline, diesel fuel, etc., or a Class B polar solvent (water miscible fuel) such as methyl alcohol, acetone, etc. First, an aqueous film is formed in the case of a conventional hydrocarbon fuel, or a polymeric membrane in the case of a polar solvent fuel. This film or membrane forms a barrier to help prevent the release of fuel vapor. Second, regardless of the fuel type, a foam blanket is formed which excludes oxygen and from which drains the liquids that form the film or the polymeric membrane. Third, the water content of the foam produces a cooling effect.

#### Typical Physiochemical Properties at 77°F/25°C

Appearance	Purple Gelled Liquid
Density	1.05 ± 0.01 g/ml
pH	7.0 – 8.0
Refractive Index	1.3580 min.
Typical Viscosity	1500 CPS*
Spreading Coefficient	4.0 – 6.0 dynes/cm

\*Brookfield #4 Spindle at 30 rpm

ThunderStorm® F-601B 1% or 3% ATC AR-AFFF concentrate is a non-Newtonian fluid that is both pseudoplastic and thixotropic. Because of these properties, dynamic viscosity will decrease as shear increases.

### Application

ThunderStorm® F-601B can be used on either conventional Class B fuel or the polar solvent type Class B fuels. Its excellent wetting characteristics make it useful in combating Class A fires as well. Because of the low energy required to make foam, it can be used with both aspirating and non-aspirating discharge devices. To provide even greater fire protection capability, it may be used with "PKW™" dry chemical extinguishing agent without regard to the order of application. Hydro-Chem™ Technology is a recommended application for dual agent use on three dimensional fire. Due to the velocity of the dry chemical discharge, care must be taken not to submerge the polymeric membrane below the fuel surface when using twin agents on polar fuels.

### Fire Performance

The fire performance of ThunderStorm® F-601B is measured primarily against Underwriters Laboratories Standard 162 (Latest Revision) and Williams Fire and Hazard Control's fire test. The UL testing focuses on fuels such as heptane and isopropyl alcohol while the Williams Fire and Hazard Control test focuses on premium unleaded gasoline. ThunderStorm® F-601B was formulated to provide superior performance on all fire tests, especially important is performance on high octane gasoline.

### Foam Properties

When used with fresh, salt or hard water at the correct dilution with most conventional foam making equipment, the expansion will vary depending on the performance characteristics of the equipment. Aspirating discharge devices produce expansion ratios of 5:1 to 10:1 depending primarily on type of aspirating device and flow rate. Non-aspirating devices such as handline water fog/stream nozzles or standard sprinkler heads give expansion ratios of 2:1 to 4:1. Medium expansion discharge devices produce typical expansion ratios between 20:1 to 60:1 depending primarily upon type of device and operating conditions.

### Proportioning

ThunderStorm® F-601B can be easily proportioned (at the correct dilution) using most conventional proportioning equipment such as:

- Hydro-Foam™ Nozzles
- Balanced pressure and in-line balanced pressure pump proportioning equipment
- Balanced pressure bladder tank proportioner
- Around-the-pump and Through-the-pump proportioners
- Fixed or portable (in-line) venturi proportioners
- Handline nozzles with fixed induction/ pickup tubes

The minimum and maximum usable temperature for ThunderStorm® F-601B in this equipment is 35 °F (2 °C) to 120 °F (49 °C) respectively.

### Storage/Shelf Life

When stored in the packaging supplied (polyethylene totes, drums or pails) and within the temperature ThunderStorm® F-601B limits specified, the shelf life of ThunderStorm® F-601B is about 20-25 years. Freezing of the product should be avoided. If, however, the product is frozen during transport or storage, it must be thawed and inspected for signs of separation. If separation has occurred, the product must be mechanically mixed until homogeneous.





When the concentrate is to be stored in an atmospheric storage tank, a .125 to .25 in. (3 – 6 mm) layer of mineral oil should be added to seal the concentrate and minimize the effects of evaporation

### Compatibility

Since ThunderStorm® F-601B is a unique blend of surfactants, high molecular weight polymers, and solvents; it is recommended that it not be mixed with any other foam concentrates. Consult Williams Fire and Hazard Control with any questions of compatibility.

### Materials of Construction

#### Compatibility

Tests have been performed with ThunderStorm® F-601B verifying its compatibility with standard carbon steel "black" pipe and pipe manufactured from various stainless steel or brass compounds. Alternative pipe, plastic fittings, and valves may be used in some cases if acceptable to the customer and/or the authority having jurisdiction.

Galvanized pipe and fittings must not be used in areas where undiluted concentrate will contact them since corrosion will result.

Please first consult Williams Fire and Hazard Control for specific guidelines concerning materials of construction.

### Inspection

As with any fire extinguishing agent, ThunderStorm® F-601B, whether in the concentrate or premixed form, should be inspected periodically. NFPA 11 "Standard for Low Expansion Foam and Combined Agent Systems" requires that foam concentrate samples be submitted to the manufacturer or other qualified laboratory for quality condition testing at least annually.

Contact Williams Fire and Hazard Control for further information on annual inspection.

### Approvals and Listings

Underwriters Laboratories successfully tested ThunderStorm® F-601B to the requirements contained in U.L. Standard 162, "Standard for Air-Foam Equipment and Liquid Concentrates." To receive a U.L. listing, the following tests had to be performed successfully:

- ✓ Foam Quality Tests
- ✓ Class B Hydrocarbon Fuel Fire Tests
- ✓ Class B Polar Solvent Fuel Fire Tests
- ✓ Foam Identification Tests
- ✓ Tests of Shipping Containers



Both F-601B and F-603B are currently UL Listed. The UL Listed Application rate for Hydrocarbons is 0.10 gpm/sq. ft. The UL Listed Application rate for Alcohols is 0.10 gpm/sq. ft.

In addition to determining agent characteristics, Underwriters Laboratories lists ThunderStorm® F-601B concentrate for use with specific hardware components that also carry the U.L. listing.

### Ordering Information

ThunderStorm® F-601B is available in pails, drums, totes or bulk shipment.

5 gallon pail	Part No. F601BP
55 gallon drum	Part No. F601BD
265 gallon tote	Part No. F601B265T
Bulk Delivery	Part No. F601BG

### Shipping Weight

5 gal. (19 L) pail	45 lbs. (20.4 kg)
55 gal. (208.2 L) drum	495 lbs. (224.5 kg)
265 gal. (1000 L) tote	2463 lbs. (1117 kg)
Cube: 5 gal. (19 L) pail	1.25 cu. ft. (.0354 m3)
55 gal. (208.2 L) drum	11.83 cu. ft. (.3350 m3)
265 gal. (1000 L) tote	31.50 cu. ft. (.8920 m3)

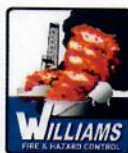
### Environmental Impact

F-601B is biodegradable, low in toxicity and can be treated in sewage treatment plants.

### Important Notice to Purchaser

All statements, technical information and recommendations contained herein are based on tests conducted with ThunderStorm® F-601B approved equipment, and are believed to be reliable. But the accuracy or completeness thereof is not guaranteed, and the following is made in lieu of all warranties, expressed or implied, including the implied warranties of merchantability and fitness for purpose:

Sellers and manufacturer's only obligation shall be to replace such quantity of the product proved to be defective. Before using, user shall determine the suitability of the product for its intended use, and user assumes all risk and liability whatsoever in connection there within. NEITHER SELLER NOR MANUFACTURER SHALL BE LIABLE EITHER IN TORT OR IN CONTRACT FOR ANY LOSS OR DAMAGE, DIRECT, INCIDENTAL, OR COINCIDENTAL, ARISING OUT OF THE USE OF OR THE INABILITY TO USE THE PRODUCT. No statement or recommendation not contained herein shall have any force or effect unless in an agreement signed by officers of seller and manufacturer.



Williams Fire & Hazard Control, Inc.  
Mauriceville, Texas, USA 77626  
P.O. Box 1359  
24 Hour Emergency Number — 409-727-2347



# Thunderstorm F-601B

## MATERIAL SAFETY DATA SHEET



Date Prepared: 12/29/09

Supersedes Date: 11/13/09

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Thunderstorm F-601B

Chemical Family: Surfactant mixture, fire fighting foam concentrate, aqueous film forming foam.

Company Identification: Chemguard, Inc.  
204 South 6<sup>th</sup> Avenue  
Mansfield, Texas 76063 USA

Williams Fire and Hazard Control  
1675 Texla Rd  
Vidor, TX 77662

(817) 473-9964 (For Product Information)  
(817) 473-9964 (For Emergency Information)  
[www.chemguard.com](http://www.chemguard.com)

### 2. COMPOSITION / INFORMATION ON INGREDIENTS

CONTAINING: HAZARDOUS AND/OR REGULATED COMPONENTS

Chemical Name	Percentage	CAS Number	OSHA Hazard
Water	Balance	7732-18-5	NO
Diethylene glycol monobutyl ether	1 – 5 %	112-34-5	YES
Polysaccharide gum	1 – 2 %	Proprietary	YES
Proprietary hydrocarbon surfactants	NA	Proprietary	YES
Proprietary fluorosurfactants	NA	Proprietary	YES

#### COMPOSITION NOTES:

### 3. HAZARDS IDENTIFICATION

#### EMERGENCY OVERVIEW

**WARNING! MAY CAUSE EYE AND/OR SKIN IRRITATION**

#### Routes of Exposure:

**Eye Contact:** Exposure during the handling or mixing may cause immediate or delayed irritation or inflammation.

**Skin Contact:** Exposure during the handling or mixing may cause immediate or delayed irritation or inflammation.

**Ingestion:** Ingestion of large quantities may cause abdominal cramps, nausea, vomiting, diarrhea.

**Inhalation:** Exposure to this product in excess of the applicable TVL or PEL may cause or aggravate other lung conditions. Exposure to this product may cause irritation to the nose, throat, and upper respiratory system.



# Thunderstorm F-601B

**Chronic:** None known

**Medical Conditions which May be Aggravated by Inhalation or Dermal Exposure:** Persons with unusual (hyper) sensitivity to chemicals may experience adverse reactions to this product.

**Carcinogenic Potential:** This product and its ingredients are not listed as a carcinogen by NTP, OSHA, ACGIH or IARC.

## 4. FIRST AID MEASURES

**Eyes:** Immediately flush eyes thoroughly with water. Continue flushing eye for at least 15 minutes, including under lids. Seek immediate medical attention.

**Skin:** In case of contact, immediately wash with plenty of soap and water for at least 5 minutes. Seek medical attention if irritation or redness occurs. Remove contaminated clothing and shoes. Clean contaminated clothing and shoes before re-use.

**Ingestion:** If victim is conscious and alert, give 2 – 3 glasses of water to drink. Do not induce vomiting without medical advice. Do not induce vomiting or give anything by mouth to an unconscious person. Seek immediate medical attention. Do not leave victim unattended. Vomiting may occur spontaneously. To prevent aspiration of swallowed product, lay victim on side with head lower than waist. If vomiting occurs and the victim is conscious, give water to further dilute the chemical.

**Inhalation:** If respiratory irritation or distress occurs remove victim to fresh air. Seek medical attention if respiratory irritation or distress continues. If breathing is difficult, give oxygen. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

**Notes to Physician:** All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

## 5. FIRE FIGHTING MEASURES

**Flash Point** – No flash to boiling

**Lower Explosive Limit** – Not Applicable

**Upper Explosive Limit** – Not Applicable

**Hazardous Combustion Products** – None known

**Unusual Fire & Explosion Hazards** – Decomposition products may be toxic.

**Extinguishing Media** – Water, Foam, Carbon Dioxide, Dry Chemical, Halon

**Special fire fighting Procedures** – None

**Auto Ignition Temperature** – Not Applicable

## 6. ACCIDENTAL RELEASE MEASURES

Wear appropriate protective gear for the situation. See Personal Protection information in section 8.

**Containment of Spill:** Dike or retain dilution water or water from firefighting for later disposal. Follow procedure described below under cleanup and disposal of spills.

**Cleanup and Disposal of Spill:** Vacuum or pump into an appropriate storage container. For smaller spills use absorbent materials and dispose of properly. Washing area with water will create large amounts of foam.

**Environmental and Regulatory Reporting:** Runoff from fire control or dilution water may cause pollution. Spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

## 7. HANDLING AND STORAGE



# Thunderstorm F-601B

**Minimum/Maximum Storage Temperature:** Store at temperatures of 35°F - 120°F.

**Handling:** Use with adequate ventilation.

**Storage:** Store in an area that is dry, well ventilated and in closed containers.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Engineering Controls:** Where engineering controls are indicated by use conditions or a potential for excessive exposure exists, the following traditional exposure techniques may be used to effectively minimize employee exposures.

**Eye Protection:** When engaged in activities where product could contact the eye, wear safety glasses with side shields, goggles, or face shield.

**Skin Protection:** Skin contact should be minimized through use of latex gloves and suitable long sleeved clothing. Consideration must be given both to durability as well as permeation resistance.

**Respiratory Protection:** Avoid actions that cause dust exposure to occur. Use local or general ventilation to control exposures below applicable exposure limits. NIOSH or MSHA approved particulate filter respirators should be used in the context of respiratory protection program meeting the requirements of the OSHA respiratory protection standard [29 CFR 1910.134] to control exposures when ventilation or other controls are inadequate or discomfort or irritation is experienced. Respirator and/or filter cartridge selection should be based on American National Standards Institute (ANSI) Standards Z88.2 Practices for Respiratory Protection.

**Ventilation:** Use local exhaust or general dilution ventilation to control exposure within applicable limits.

### **Work Practice Controls:**

Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material:

- (1) Do not store, use, and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored.
- (2) Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet.
- (3) Wash exposed skin promptly to remove accidental splashes or contact with this material.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance** – Thick purple liquid

**Odor** – Very slight solvent odor

**Physical State** – Liquid

**Specific Gravity (H<sub>2</sub>O=1)** – 1.04 – 1.06

**pH** 7.0 – 8.0

**Vapor Pressure** – Not Evaluated

**Density** – Not Evaluated

**Boiling Point** – 212°F

**Melting Point** – 32°F

**Solubility in Water** – 100% Soluble

## 10. STABILITY AND REACTIVITY

**Stability:** Stable.

**Conditions to avoid:** Unintentional contact with water.

**Hazardous Polymerization:** Hazardous polymerization will not occur.



# Thunderstorm F-601B

**Incompatibility with other materials:** Strong oxidizers

**Hazardous Decomposition:** Oxides of nitrogen, sulfur, carbon.

## 11. TOXICOLOGICAL INFORMATION

### **Acute Eye and Skin Toxicity Data:**

Toxicological Information and Interpretation:

	<b><u>Concentration</u></b>	<b><u>Solution (As Used)</u></b>
Eye Irritation:	Not evaluated	Not evaluated
Skin Irritation:	Not evaluated	Not evaluated
Acute Dermal LD50		
Acute Oral Effects:		
Acute Oral LD50		
Inhalation Toxicity:	Not evaluated	
Sensitization:	Not evaluated	
Teratology:	Not evaluated	
Mutagenicity:	Not evaluated	
Reproduction:	Not evaluated	

### **Chronic Toxicity:**

This product does not contain any substances that are considered by OSHA, NTP, IARC or ACGIH to be "probable" or "suspected" human carcinogens.

## 12. ECOLOGICAL INFORMATION

Chemical Oxygen Demand: 331,000 mg/kg  
Biological Oxygen Demand (5 Day) 145,000 mg/kg  
Biodegradability (B.O.D./C.O.D.) 44%

## 13. DISPOSAL CONSIDERATIONS

**Waste Disposal:** Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropriate. Dispose of waste material according to local, state and federal regulations. Discharge to waste treatment facilities only with permission. Anti-foam agents may be used to reduce foaming in the waste streams. Do not incinerate.

## 14. TRANSPORTATION INFORMATION

**Hazardous Materials Description/Proper Shipping Name:** NOT REGULATED

**Hazard Class:** Not Applicable

**Identification Number:** Not Applicable

**Required Label Text:** Not Applicable

**Hazardous Substances/Reportable Quantities:** Not Applicable



# Thunderstorm F-601B

## 15. REGULATORY INFORMATION

### FEDERAL REGULATORY STATUS:

**Status under OSHA Hazard Communication Standard, 29 CFR 1910.1200:** This product is considered a "hazardous chemical" under this regulation, and does not need to be included in the employer's hazard communication program.

**Reportable Quantities Under the Clean Water Act, CERCLA, and EPCRA, 40 CFR 117, 302 and 355:**  
The product contains no component regulated under section 304 (40 CFR 370).

**Hazard Category and Applicability of EPCRA Hazardous Substance Inventory Reporting, 40 CFR 370:**  
Not listed

**Applicability of EPCRA Toxic Chemical Release Inventory (TRI) Reporting, 40 CFR 372:**  
Not subject to TRI reporting

**Status Under the Toxic Substances Control Act, 40 CFR 710:**  
All chemical(s) comprising this product are either exempt or listed on the TSCA Inventory.

### SARA Title III Hazard Classes:

Fire Hazard: NO  
Reactive Hazard: NO  
Release of Pressure: NO  
Acute Health Hazard: YES  
Chronic Health Hazard: NO

### State Regulations:

#### California:

This product does not contain any components that are regulated under California Proposition 65.

#### Pennsylvania:

This product does not contain any components on the Pennsylvania Right to Know List.

## 16. OTHER INFORMATION

**NFPA Ratings:** Health: 1 Flammability: 0 Reactivity: 0

### Label Requirements:

**WARNING! MAY CAUSE EYE AND/OR SKIN IRRITATION**

Hazardous Material Information System (HMIS):	Health	1
	Flammability	0
	Reactivity	0
	Personal Protection	A



# Thunderstorm F-601B

NFPA/HMIS Definitions: 0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme

Protective Equipment: Safety glasses, gloves

## ADDITIONAL INFORMATION:

The information contained in this document is given in good faith and based on our current knowledge. It is only an indication and is in no way binding, notably as regards infringement of, or prejudice to third parties through the use of our products. Chemguard guarantees that its products comply with its sales specifications. This information must on no account be used as a substitute for necessary prior tests which alone can ensure that a product is suitable for a given use. Users are responsible for ensuring compliance with local legislation and for obtaining the necessary certifications and authorizations.

END OF MSDS